

CITY OF TUCSON HABITAT CONSERVATION PLANS (HCPs)  
Technical Advisory Committee (TAC)  
Wednesday, October 1, 2008, 1:00 – 4:00 p.m.  
U.S. Fish and Wildlife Service Conference Room  
201 North Bonita Avenue, Suite 141  
Tucson, Arizona 85745

**AGENDA**

1. Welcome, introductions, and TAC Guiding Principles
2. Review of 9/17/08 TAC meeting minutes
3. Updates
4. Discussion:
  - Adaptive Management presentations  
and discussion (Dennis Kubly and Glen Knowles)\*
5. Upcoming meetings
6. Call to the Audience
7. Adjournment

*\* For more detail, please see attached outline and biographies*

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Scheduled TAC meetings:

December 17, 2008, 1:00 – 4:00 p.m., U.S. Fish and Wildlife Service Conference Room  
January 21, 2008, 1:00 – 4:00 p.m., U.S. Fish and Wildlife Service Conference Room  
February 18, 2008, 1:00 – 4:00 p.m., U.S. Fish and Wildlife Service Conference Room

Adaptive Management: Constructs and Applications  
with Attention to Use in Developing and Implementing  
Successful Habitat Conservation Plans

1 October 2008

by

Glen Knowles, Fish and Wildlife Service, Phoenix, AZ and  
Dennis Kubly, Bureau of Reclamation, Salt Lake City, UT

Dennis Kubly's Part

- I. External and Internal Contexts of Environmental Considerations
  - a. Changing Times, Changing Values in the United States
  - b. Development of the Western U.S.
  - c. Brief History of Environmental Laws
  - d. Where Were You in 1956?
- II. History of Adaptive Management
  - a. Origins
  - b. Meanings
  - c. Applications
  - d. Success in Theory and Practice
- III. Adaptive Management on the Colorado River
  - a. Ongoing Programs
  - b. Similarities and Differences in Application
- IV. Glen Canyon Dam
  - a. Legislation and Construction
  - b. Purposes of the Dam
  - c. Operations
  - d. Compliance with Environmental Laws
- V. Glen Canyon Dam Adaptive Management Program
  - a. Environmental Issues
  - b. Hierarchical Organization
  - c. Roles and Functions of Participants
  - d. From Vision and Mission to Information Needs
  - e. An Active Adaptive Approach
  - f. Progress Made, Lessons Learned
  - g. Yet to Come

Glen Knowles' Part

- I. HCPs
  - a. ESA
  - b. History
  - c. Congressional Intent
  - d. Early Application
  - e. Case Studies
  - f. Current Applications
- II. What is Adaptive Management?
  - a. Decision Process
  - b. Stakeholders!
  - c. Modeling

- d. Monitoring and Research
  - e. Assessment
  - f. Public process
- III. HCP Process
  - a. Development
  - b. Permit Processing
  - c. Post Issuance
- IV. Adaptive Management in HCPs
  - a. Similarities with Other Applications
  - b. Long-term Planning
  - c. Monitoring Plans
  - d. Organizational Structure
  - e. Public Process
- V. Why do it?
  - a. Costs
  - b. Benefits
  - c. Model HCP Application
  - d. Species and/or Ecosystem Examples
  - e. Conclusions

Questions and answers / group discussion along the way!

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**Dennis Kubly** received his undergraduate and graduate education at the University of South Dakota, Minnesota State University, and Arizona State University. He has been involved in research on the limnology of desert lakes and rivers of California, Arizona, and New Mexico, including high elevation lakes in the Sierra Nevada, the Colorado River in Grand Canyon, rock pools in mountain ranges of the Sonoran Desert, and hypersaline playa lakes in the Mojave Desert. From 1985-1999 he worked for the Arizona Game and Fish Department, first in the Research Branch evaluating the effects of Glen Canyon Dam on the ecology of the Colorado River, and then in the Nongame Branch as a program manager and section supervisor working on conservation of sensitive, threatened, and endangered species. He has been with the Upper Colorado Region of the Bureau of Reclamation since September 1999 and serves as the Adaptive Management Group Chief. His primary responsibilities are to supervise staff engaged in support of environmental compliance activities and to serve as program manager of the Glen Canyon Dam Adaptive Management Program.

**Glen W. Knowles** graduated with a B.S. in Environmental Resources and an M.S. in Zoology from Arizona State University. He has been a biologist with the U.S. Fish and Wildlife Service for nine years, seven in the Arizona Ecological Services Office in Phoenix, Arizona, where he has worked on ecosystem conservation planning, environmental compliance, and endangered species act listing and recovery, throughout Arizona. He currently serves on the Technical Work Group of the Glen Canyon Dam Adaptive Management Program, and is working on development of several multi-stakeholder conservation programs. Glen previously worked as a Research Associate at the Arizona State University Center for Environmental Resources, and as a Teaching Assistant for Arizona State University.